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KLRG1 Monoclonal Antibody (2F1), APC, eBioscience™

Catalog Number 17-5893-81

Product data sheet

Details	
Size	50 µg
Host/Isotope	Syrian hamster / IgG
Class	Monoclonal
Type	Antibody
Clone	2F1
Conjugate	APC
Form	Liquid
Concentration	0.2 mg/mL
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2
Contains	0.09% sodium azide
Storage Conditions	4° C, store in dark, DO NOT FREEZE!

Species Reactivity	
Species reactivity	Mouse
Published species	Mouse, Human, Not Applicable

Tested Applications	Dilution *
Flow Cytometry (Flow)	0.125 µg/test

Published Applications	
Flow Cytometry (Flow)	See 24 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

Description: This 2F1 monoclonal antibody reacts with the mouse Killer cell Lectin-like Receptor G1 (KLRG1), also known as Mast cell Function-associated Antigen (MAFA). KLRG1 is a homodimer of glycosylated 30-38 kDa subunits and contains a cytoplasmic motif similar to the immunoreceptor tyrosine-based inhibitory motif (ITIM). Rat MAFA was identified as an antigen specific to rat mast cells; however, the expression of mouse KLRG1 /MAFA using 2F1 has not been detected on the surface of mouse mast cell lines, bone marrow-derived mast cells, or peritoneal mast cells. This antigen is expressed on approximately one-third of mouse NK cells and a subset of T cells. MHC class I molecules regulate KLRG1 via interactions with class I-specific inhibitory Ly49 molecules and SHP-1 signaling. Although KLRG1 and Ly49 are both lectin-like inhibitory receptors that are regulated by class I MHC expression, the effects of this on cell surface expression of these molecules are opposing, and the underlying regulatory mechanisms distinct. Applications Reported: This 2F1 antibody has been reported for use in flow cytometric analysis. Applications Tested: This 2F1 antibody has been tested by flow cytometric analysis of mouse splenocytes. This can be used at less than or equal to 0.125 µg per test. A test is defined as the amount (µg) of antibody that will stain a cell sample in a final volume of 100 µL. Cell number should be determined empirically but can range from 10^5 to 10^8 cells /test. It is recommended that the antibody be carefully titrated for optimal performance in the assay of interest. Excitation: 633-647 nm; Emission: 660 nm; Laser: Red Laser. Filtration: 0.2 µm post-manufacturing filtered.

Background/Target Information

KLRG1 (Killer cell lectin-like receptor G1, MAFA, 2F1-Ag) is a homodimeric member of the lectin-like type 2 transmembrane receptor family whose members contain characteristic immunoreceptor tyrosine-based inhibitory motifs (ITIMs) in their cytoplasmic domains. These ITIMs interact with the SH2 domains of protein phosphatases such as SHP-1. KLRG1 is an inhibitory receptor that is expressed on natural killer (NK) cells and certain T cells. NK cells are involved in the lysis of tumor cells and virus-infected cells, and mediate humoral and cell-mediated immune responses.

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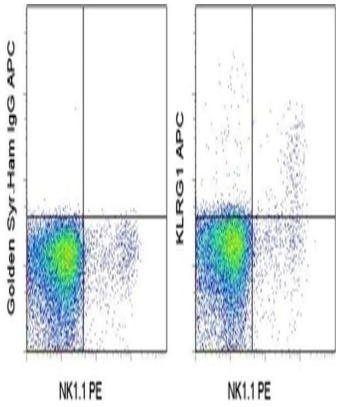
Product Images For KLRG1 Monoclonal Antibody (2F1), APC, eBioscience™



KLRG1 Antibody (17-5893-81) in Flow

Staining of C57BL/6 splenocytes with Anti-Mouse NK1-1 PE (Product # 12-5941-82) and 0.06 µg of Golden Syrian Hamster IgG Isotype Control APC (Product # 17-4914-81) (left) or 0.06 µg of Anti-Mouse KLRG1 APC (right). Total viable cells were used for analysis.

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PubMed References For KLRG1 Monoclonal Antibody (2F1), APC, eBioscience™

24 Flow Cytometry References

Species / Dilution	Summary
Mouse / Not Cited	17-5893 was used in Flow cytometry/Cell sorting to elucidate the mechanisms of regulation of terminal differentiation of CD8(+) T cells. Nature immunology (2011; 12: 1221) **"The transcriptional regulators Id2 and Id3 control the formation of distinct memory CD8+ T cell subsets."** Author(s):Yang CY,Best JA,Knell J,Yang E,Sheridan AD,Jesionek AK,Li HS,Rivera RR,Lind KC,D'Cruz LM,Watowich SS,Murre C,Goldrath AW PubMed Article URL:http://dx.doi.org/10.1038/ni.2158
Mouse / Not Cited	17-5893 was used in Flow cytometry/Cell sorting to establish that suppression of autoimmune responses is due to the T-cell intrinsic role of MALT1 proteolytic activity. Frontiers in immunology (2020; 10:) **"MALT1 Proteolytic Activity Suppresses Autoimmunity in a T Cell Intrinsic Manner."** Author(s):Demeyer A,Skordos I,Driege Y,Kreike M,Hochepied T,Baens M,Staal J,Beyaert R PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2019.01898
Mouse / Not Cited	17-5893 was used in Flow cytometry/Cell sorting to compare the functionality of CD4 T cell responses mounted against dominant and cryptic epitopes of the Mycobacterium tuberculosis 6-kDa early secreted antigen before and postinfection. Journal of immunology (Baltimore, Md. : 1950) (2014; 192: 3247) **"Protective CD4 T cells targeting cryptic epitopes of Mycobacterium tuberculosis resist infection-driven terminal differentiation."** Author(s):Woodworth JS,Aagaard CS,Hansen PR,Cassidy JP,Agger EM,Andersen P PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1300283
Mouse / Not Cited	17-5893 was used in Flow cytometry/Cell sorting to elucidate how H56/CAF01 induces a population of circulating CD4 T cells that traffic into the Mycobacterium tuberculosis-infected lung. Mucosal immunology (2017; 10: 555) **"Subunit vaccine H56/CAF01 induces a population of circulating CD4 T cells that traffic into the Mycobacterium tuberculosis-infected lung."** Author(s):Woodworth JS,Cohen SB,Moguche AO,Plumlee CR,Agger EM,Urdahl KB,Andersen P PubMed Article URL:http://dx.doi.org/10.1038/mi.2016.70
Mouse / Not Cited	17-5893 was used in Flow cytometry/Cell sorting to identify discrete lineages of intestinal antigen-specific CD8+ T cells, including a Blimp1hiId3lo tissue-resident effector cell population most prominent in the early phase of acute viral and bacterial infections and a molecularly distinct Blimp1loId3hi tissue-resident memory population that subsequently accumulated at later infection time points. Immunity (2020; 52: 808) **"Heterogenous Populations of Tissue-Resident CD8⁺ T Cells Are Generated in Response to Infection and Malignancy."** Author(s):Milner JJ,Toma C,He Z,Kurd NS,Nguyen QP,McDonald B,Quezada L,Widjaja CE,Witherden DA,Crowl JT,Shaw LA,Yeo GW,Chang JT,Omilusik KD,Goldrath AW PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2020.04.007
Mouse / 1:200	17-5893 was used in Flow cytometry/Cell sorting to compare the innate lymphoid cell populations at different sites in mice with defective T cell immunity. Wellcome open research (2021; 2:) **"Characterisation of innate lymphoid cell populations at different sites in mice with defective T cell immunity."** Author(s):Dutton EE,Camelo A,Sleeman M,Herbst R,Carlesso G,Belz GT,Withers DR PubMed Article URL:http://dx.doi.org/10.12688/wellcomeopenres.13199.3
Mouse / Not Cited	17-5893 was used in Flow cytometry/Cell sorting to study IL-7 and IL-15 regulation of CD8+ T-cell subsets during contraction of the immune response. Blood (2008; 112: 3704) **"IL-7 and IL-15 differentially regulate CD8+ T-cell subsets during contraction of the immune response."** Author(s):Rubinstein MP,Lind NA,Purton JF,Filippou P,Best JA,McGhee PA,Surh CD,Goldrath AW PubMed Article URL:http://dx.doi.org/10.1182/blood-2008-06-160945
Mouse / Not Cited	17-5893 was used in Flow cytometry/Cell sorting to suggest a revised model for ILC differentiation that redefines the cell-fate potential of helper-ILC-restricted Zbtb16+ ILCPs. Immunity (2019; 50: 1054) **"An Id2^{RFP}-Reporter Mouse Redefines Innate Lymphoid Cell Precursor Potentials."** Author(s):Xu W,Cherrier DE,Chea S,Vosshenrich C,Serafini N,Petit M,Liu P,Golub R,Di Santo JP PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2019.02.022

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	17-5893 was used in Flow cytometry/Cell sorting to study how loss-of-function PTPN22 alleles can lead to the population expansion of effector and/or memory T cells and a predisposition to human autoimmunity.
Mouse / Not Cited	Nature immunology (2014; 15: 875) **"The tyrosine phosphatase PTPN22 discriminates weak self peptides from strong agonist TCR signals."** Author(s):Salmond RJ,Brownlie RJ,Morrison VL,Zamoyska R PubMed Article URL:http://dx.doi.org/10.1038/ni.2958
	17-5893 was used in Flow cytometry/Cell sorting to advance the utility of the Collaborative Cross (CC) as a tool to analyze the immune response to viral infection.
Mouse / Not Cited	Cell reports (2020; 31:) **"Diverse CD8 T Cell Responses to Viral Infection Revealed by the Collaborative Cross."** Author(s):Martin MD,Sompallae R,Winborn CS,Harty JT,Badovinac VP PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2020.03.072
	17-5893 was used in Flow cytometry/Cell sorting to conclude that CD8+ T cell-population-intrinsic mechanisms regulate cellular behavior, thereby promoting robustness of population dynamics.
Mouse / Not Cited	Immunity (2020; 52: 313) **"Quorum Regulation via Nested Antagonistic Feedback Circuits Mediated by the Receptors CD28 and CTLA-4 Confers Robustness to T Cell Population Dynamics."** Author(s):Zenke S,Palm MM,Braun J,Gavrilov A,Meiser P,Böttcher JP,Beyersdorf N,Ehl S,Gerard A,Lämmermann T, Schumacher TN,Beltman JB,Rohr JC PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2020.01.018
	17-5893 was used in Flow cytometry/Cell sorting to investigate how the threshold of memory CD8 T cells required for protective immunity is influenced by Plasmodium-host interactions.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) (2011; 186: 5873) **"Plasmodium-host interactions directly influence the threshold of memory CD8 T cells required for protective immunity."** Author(s):Schmidt NW,Butler NS,Harty JT PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1100194
	17-5893 was used in Flow cytometry/Cell sorting to provide genetic evidence supporting that NKG2A and the inhibitory members of Ly49 family receptors synergize to regulate NK cell education.
Mouse / 1:200	Nature communications (2019; 10:) **"Synergized regulation of NK cell education by NKG2A and specific Ly49 family members."** Author(s):Zhang X,Feng J,Chen S,Yang H,Dong Z PubMed Article URL:http://dx.doi.org/10.1038/s41467-019-13032-5
	17-5893 was used in Flow cytometry/Cell sorting to identify the control of Treg activation and immune tolerance maintenance is due to Noc4L mediated ribosome biogenesis.
Mouse / Not Cited	Cell reports (2019; 27: 1205) **"Noc4L-Mediated Ribosome Biogenesis Controls Activation of Regulatory and Conventional T Cells."** Author(s):Zhu X,Zhang W,Guo J,Zhang X,Li L,Wang T,Yan J,Zhang F,Hou B,Gao N,Gao GF,Zhou X PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2019.03.083
	17-5893 was used in Flow cytometry/Cell sorting to show that altered chitin clearance could exacerbate fibrogenic pathways in the setting of lung diseases characterised by epithelial cell dysfunction.
Mouse / Not Cited	Cell (2017; 169: 497) **"Spontaneous Chitin Accumulation in Airways and Age-Related Fibrotic Lung Disease."** Author(s):Van Dyken SJ,Liang HE,Naikawadi RP,Woodruff PG,Wolters PJ,Erle DJ,Locksley RM PubMed Article URL:http://dx.doi.org/10.1016/j.cell.2017.03.044
	17-5893 was used in Flow cytometry/Cell sorting to describe the crucial role of the mitochondrial protein Drp1 in T cell development and regulation of lymphocyte immune-surveillance.
Mouse / Not Cited	Cell reports (2018; 25: 3059) **"Drp1 Controls Effective T Cell Immune-Surveillance by Regulating T Cell Migration, Proliferation, and cMyc-Dependent Metabolic Reprogramming."** Author(s):Simula L,Pacella I,Colamatteo A,Procaccini C,Cancila V,Bordi M,Tregnago C,Corrado M,Pigazzi M,Barnaba V, Tripodo C,Matarese G,Piconese S,Campello S PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2018.11.018

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	17-5893 was used in Flow cytometry/Cell sorting to evaluate Trypanosoma cruzi-specific T-cell and antibody immune responses, T-cell phenotypes and paraseitemia in children undergoing anti-trypanosoma cruzi treatment.
Human / Not Cited	Frontiers in immunology (2019; 9:) **"Distinct Treatment Outcomes of Antiparasitic Therapy in Trypanosoma cruzi-Infected Children Is Associated With Early Changes in Cytokines, Chemokines, and T-Cell Phenotypes."** Author(s):Albareda MC,Natale MA,De Rissio AM,Fernandez M,Serjan A,Alvarez MG,Cooley G,Shen H,Viotti R,Bua J, Castro Eiro MD,Nuñez M,Fichera LE,Lococo B,Scollo K,Tarleton RL,Laucella SA PubMed Article URL:http://dx.doi.org/10.3389/fimmu.2018.01958
	17-5893 was used in Flow cytometry/Cell sorting to investigate the mechanisms behind the generation and function of NKR(+) T cells.
Mouse / Not Cited	Journal of immunology (Baltimore, Md. : 1950) (2012; 188: 4838) **"Differential requirements for IRF-2 in generation of CD1d-independent T cells bearing NK cell receptors."** Author(s):Notake T,Horisawa S,Sanjo H,Miyagawa S,Hida S,Taki S PubMed Article URL:http://dx.doi.org/10.4049/jimmunol.1200210
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Mouse / Not Cited	Immunity (2019; 50: 1425) **"Tissue-Resident Group 2 Innate Lymphoid Cells Differentiate by Layered Ontogeny and In Situ Perinatal Priming."** Author(s):Schneider C,Lee J,Koga S,Ricardo-Gonzalez RR,Nussbaum JC,Smith LK,Villeda SA,Liang HE,Locksley RM PubMed Article URL:http://dx.doi.org/10.1016/j.immuni.2019.04.019
	17-5893 was used in Flow cytometry/Cell sorting to indicate that the ehrlichiae maintain chronic infection in part by avoiding signals mediated by activated T cells.
Mouse / Not Cited	Infection and immunity (2009; 77: 4643) **"Antigen display, T-cell activation, and immune evasion during acute and chronic ehrlichiosis."** Author(s):Nandi B,Chatterjee M,Hogle K,McLaughlin M,MacNamara K,Racine R,Winslow GM PubMed Article URL:http://dx.doi.org/10.1128/IAI.01433-08
	17-5893 was used in Flow cytometry/Cell sorting to study the mechanisms underlying natural killer cell function in response to poxviruses.
Mouse / Not Cited	PLoS pathogens (2010; 6:) **"Direct TLR2 signaling is critical for NK cell activation and function in response to vaccinia viral infection."** Author(s):Martinez J,Huang X,Yang Y PubMed Article URL:http://dx.doi.org/10.1371/journal.ppat.1000811
	17-5893 was used in Flow cytometry/Cell sorting to investigate the requirement of the T cell differentiation marker KLRG1 during M. tuberculosis infection, showing that deficiency significantly enhances survival.
Mouse / Not Cited	Infection and immunity (2013; 81: 1090) **"Killer cell lectin-like receptor G1 deficiency significantly enhances survival after Mycobacterium tuberculosis infection."** Author(s):Cyktor JC,Carruthers B,Stromberg P,Flaño E,Pircher H,Turner J PubMed Article URL:http://dx.doi.org/10.1128/IAI.01199-12
	17-5893 was used in Flow cytometry/Cell sorting to provide an additional explanation for the synergistic pathogenicity of IAV and S. pneumoniae, as well as heralding the prospect of exploiting the phenomenon to develop better vaccine strategies for both pathogens.
Mouse / Not Cited	Nature microbiology (2019; 4: 1316) **"Direct interaction of whole-inactivated influenza A and pneumococcal vaccines enhances influenza-specific immunity."** Author(s):David SC,Norton T,Tyllis T,Wilson JJ,Singleton EV,Laan Z,Davies J,Hirst TR,Comerford I,McColl SR,Paton JC, Alsharifi M PubMed Article URL:http://dx.doi.org/10.1038/s41564-019-0443-4
	17-5893-82 was used in Flow Cytometry to develop enhanced adoptive T cell therapy using immunomodulatory fusion proteins for use in solid tumours.
Mouse / Not Cited	The Journal of experimental medicine (2020; 217:) **"A Fas-4-1BB fusion protein converts a death to a pro-survival signal and enhances T cell therapy."** Author(s):Oda SK,Anderson KG,Ravikumar P,Bonson P,Garcia NM,Jenkins CM,Zhuang S,Daman AW,Chiu EY,Bates BM, Greenberg PD PubMed Article URL:http://dx.doi.org/10.1084/jem.20191166

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